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News Bulletin of The Entomological Society of Victoria Inc.

THE ENTOMOLOGICAL SOCIETY OF VICTORIA (Inc)

MEMBERSHIP

Any person with an interest in entomology shall be eligible for Ordinary membership. Members of the Society include professional, amateur and student entomologists, all of whom receive the Society's News Bulletin, the Victorian Entomologist.

OBJECTIVES

The aims of the Society are:

- (a) to stimulate the scientific study and discussion of all aspects of entomology,
- (b) to gather, disseminate and record knowledge of all identifiable Australian insect species,
- (c) to compile a comprehensive list of all Victorian insect species,
- (d) to bring together in a congenial but scientific atmosphere all persons interested in entomology.

MEETINGS

The Society's meetings are held at the 'Discovery Centre', Lower Ground Floor, Museum Victoria, Carlton Gardens, McIway reference Map 43 K5 at 8 p.m. on the third Friday of even months, with the exception of the December meeting which is held on the second Friday. Lectures by guest speakers or members are a feature of many meetings at which there is ample opportunity for informal discussion between members with similar interests. Forums are also conducted by members on their own particular interest so that others may participate in discussions.

SUBSCRIPTIONS

Ordinary Member	\$20.00 (overseas members \$22)
Country Member	\$16.00 (Over 100 km from GPO Melbourne)
Student Member	\$12.00
Associate Member	\$ 5.00 (No News Bulletin)

Associate Members, resident at the same address as, and being immediate relatives of an ordinary Member, do not automatically receive the Society's publications but in all other respects rank as ordinary Members.

LIFE MEMBERS: P. Carwardine, Dr. R. Field, D. Holmes, Dr. T. New, Dr. K. Walker.

Cover design by Alan Hyman.

Cover illustration: The pale Sun Moth, *Synemon selene* Klug, is an endangered species restricted to perennial grassland dominated by *Austrodanthonia* in Western Victoria. It is now extinct in SA, and was presumed extinct in Vic. until its rediscovery, in February 1991, by the late Frank Noelker and Fabian Douglas. The Victorian Populations are parthenogenetic with all specimens comprising females, a most unusual trait in the Castniidae. Illustration by Michael F. Braby.

MINUTES OF THE ANNUAL GENERAL MEETING 21 APRIL 2006

Meeting opened at 8.08 pm

Present: P. Carwardine, L. Cookson, I. Endersby, G. Kuseff, P. Marriott, D. Stewart

Visitors: P. Lillywhite

Apologies: D. Dobrosak, K. Walker, G. Weeks

Minutes: Minutes of the 15 April 2005 Annual General Meeting [*Vic. Ent.* 35 (3): 41-42] were accepted
M: Marriott, **S:** Carwardine

Reports

President:

The Victorian Entomological Society is a loose organisation that brings together its members in a variety of ways. It enables its members to know more about entomology in general, pursue their own interests and provide networks of like-minded people. It seeks to promote the study of insects and forms a force to help conserve them through public education and practical projects.

This evening I would like to focus on those who do much to further these aims.

Our magazine has grown over the years into a well respected and widely read publication. This is thanks to a series of editors who have put much of their own time and efforts into the, often mundane, tasks of compiling, printing, posting and distribution. Our present editor Daniel Dobrosak is to be commended in his present efforts in achieving a very effective magazine.

His efforts would be in vain if it were not for the contributions of people both within and without the society. When you look at a year's output it is impressive to see the range and diversity of topics covered and issues presented. It is not the intention to be a deeply and rigorously edited set of journal articles but rather- a forum for ideas, observations and interesting bits and pieces. Our contributors are welcome and much appreciated.

The finance and administration is constant and our collective thanks go to Ian Endersby for his efforts in this area. Those of you who do not serve on the council may not be aware of the skill and knowledge that underpins his efforts.

The other members of the committee are also thanked for their contribution to the Society. These days it is not easy to get a commitment to participate and contribute in a committee. It is to Ken Walker - and Peter Carwardine that we should extend special thanks for their participation and contributions.

Our speakers at this meeting are also thanked through this address. They give much and their particular interests are spread further than the meeting through reports and follow up articles in the magazine.

We also should pause at this time to recognise a special person in Keith Hatley who passed away in September last year. His son has remarked on his enthusiasm for the Society right to the time of his death. His contribution was very influential to those who wished to work in the north-west of the state where there is still so much to be done.

To our members we are appreciative of your support and continued participation in a variety of ways.

Thank you all.

Treasurer

- The financial accounts have been audited and published in the April issue of the *Vic. Ent.*
- The General Account showed a surplus of \$942 for the year but some of this was due to 2006 subscriptions being paid before the end of the 2005 financial year. Free use of the Museum meeting room has also helped to contain costs and the Museum is to be thanked for this service.
- Although printing costs have risen substantially the Society has a sufficient surplus to counter the need to increase subscription rates in the forthcoming year.
- Because no Le Souëf nominations were received this year the only expenditure from this fund was for the Science Talent Search bursaries.

Le Souëf Committee

No nominations were received for the Award this year.

Election of Council

No nominations were received prior to the meeting and none from the floor. The following members agreed to fill the positions of:

President	P. Marriott
Vice-President	P. Carwardine
Treasurer	I. Endersby
Editor	D. Dobrosak
Public Officer	I. Endersby
Councillor	D. Stewart

The Council will attempt to fill the vacancies.

The meeting closed at 8:27 pm

MINUTES OF THE GENERAL MEETING 21 APRIL 2006

Meeting opened at 8:27 pm.

Present: P. Carwardine, L. Cookson, I. Endersby, G. Kuseff, P. Marriott, D. Stewart

Visitors: P. Lillywhite

Apologies: D. Dobrosak, K. Walker, G. Weeks

Minutes: Minutes of the 17 February 2006 General Meeting [*Vic. Ent.* 36 (2): 21-22] were accepted M: Stewart, S: Carwardine with the amendment that P. Carwardine commented on the Cup Moth bred on *Angophora* but did not show the specimen.

President's Address

Peter Marriott showed a large number of photographs of flies that he had taken some of them identified to family. He invited comment and possible further identifications. Members responded with some of their own field observations and comments but it was recognised that there were lots of gaps in their knowledge about this diverse group of insects.

General Business.

- Advice of an invertebrate photographic competition "Up Close and Spineless" was received from the Australian Museum
- Allen Cooper and Grant Kuseff were elected to membership. Membership applications were received from Ken Harris and Peter Lillywhite
- A member has reported predation of Emperor Gum caterpillars by European Wasps which might be contributing to the apparent decline of the Moth. He will publish an article in the *Vic Ent* which, it is hoped, will stimulate additional observations.
- There have been press reports concerning a proposed housing development near Melton, Vic. which hosts Golden Sun Moths. Council was requested to respond to the EPBC referral stressing that disturbance of the soil was a threatening process for the species due to its subterranean life history. [It was subsequently discovered that the period for public comment had expired]
- Photographs of an insect which had been infected with a fungus was sent for comment and possible identification. It consisted of a pupa within a cocoon but only one side of the pupa had been photographed and that bore no structure. With the topic of flies still fresh in everyone's memory it was suggested that it could be a tachinid puparium within a lepidopteran host cocoon. However, with no sign of any lepidopteran exoskeleton or chrysalis present in addition to the supposed fly puparium it is most likely that the fungal host was a moth.

The meeting was closed at 10:04 pm

MINUTES OF THE COUNCILLOR'S MEETING 17 MARCH 2006

Meeting opened at 5.11 pm

Present: P. Carwardine, D. Dobrosak, P. Marriott, K. Walker.

Apologies: I. Endersby, D. Stewart.

Treasurer's Report:

No report was available due to the absence of the Honorary Treasurer.

Editor's Report:

The Editor advised that the June issue was completed and there were spare articles for the next issue.

General Business:

- There were no problems with the new printer. Peter Carwardine has kindly volunteered to pick up the printed booklets and delivery them to the Honorary Editor at least four times a year.
- Society Permit to collect in Victorian National Parks. It was agreed that the Society would not renew its permit. Over the last three years only one member made use of the permit. The need for a permit was also doubtful given the insurance difficulties associated with the Society organising excursions. Any members may apply for permits in their own names and may contact a council member for assistance.
- Le Souëf Award: It was agreed that any applications would be sent to the Honorary Editor's address and forwarded to the Le Souëf Committee at the October Council meeting.
- The August issue will include colour issue.
- Rebecca Carland will speak on Fredrick's McCoy's Prodrumus of the Zoology of Victoria which included text and beautiful colour illustrations of invertebrates and vertebrates. It was published between 1878 and 1890 and provides us with important historical and distributional information.

Meeting closed 5:46pm

Keith Hateley 10 April, 1911 to 1 September, 2005

Last year one of our longtime supporters and a passionate friend of the natural world (and in particular the insects) passed away. Any discussion of Keith Hateley with those who knew him brings to mind the enthusiasm and dedication of this man. The two pieces below provide a fitting reminder of his contributions. Our sympathies go to his family and friends.

From Charles McCubbin (Sale)

For a generation of naturalists, especially butterfly enthusiasts, the Little Desert National Park and the adjoining small town of Kiata will always be linked with one name: Keith Hateley.

In November 1938 Keith took a few specimens of the Large Brown Azure Butterfly, a species he had not seen before. The following year he took a few more in late October and showed them to George Lyell who asked him to see if he could get more. Shortly afterwards, on a humid day in early November, he caught 38 specimens as they flew low over the Mallee and settled on the ground.

In 1945 Bill Mules, a CSIRO scientist, found a single pupa in the nest of a sugar ant *Camponotus nigriceps* at the base of a Green Mallee *Eucalyptus viridis*. In spite of much searching and repeated visits by butterfly collectors few specimens have been found since.

The Large Brown Azure is not the sole reason enthusiastic entomologists visit the Little Desert and Kiata, at least six other butterfly species not found in southern Victoria and some spectacular Jewel Beetles also occur there.

I first met Keith in November 1948 when I went to Kiata as a pillion passenger on butterfly enthusiast, Nigel Quick's motorbike. After being confused by the maze of sandy tracks around the desert, we called at the Kiata General Store seeking guidance on which track to take and were delighted to discover the store owner, Keith Hateley was a keen naturalist. He brought out boxes of butterflies he had collected while in the services in New Guinea and told us where to collect nearby. As soon as he could get away he guided us out into the desert, pointing all the best collecting spots and showing us the plants on which to look for larvae.

Keith Hateley had an encyclopaedic knowledge, not just of butterflies, but of all the wildlife and plants of the region. He set up the Lowan Sanctuary at Kiata and became its first Ranger. This was the nucleus that evolved into The Little Desert National Park.

He almost single handedly made Kiata and the Little Desert a place of pilgrimage for birdos, botanists and naturalists of all kinds. His contribution to natural history and conservation was recognised on June 6, 1978 by the award of an Order of Australia (AM) 'for services in the field of conservation'.

He will be sadly missed by all who knew him.

From Ted Edwards (Canberra)

I first encountered Keith Hateley's name in that wonderful book "The Mallee Fowl" by Harry Frith. I little dreamt that Keith was still alive and active. Later I was privileged to visit him several times to see his moths and butterflies and to hear his recollections of them.

Keith was one of the now-passed generations of self-taught naturalists who saw and remembered everything and was able to make the best of the very limited literature available in those times. He remembered all about his collection and the circumstances of capture of his specimens and could talk for days of the times and people from all branches of natural history in the Little Desert. He belonged to the time where travel was less easy, fast and cheap than it is today so that naturalists developed a very deep and comprehensive knowledge of their local bush and rarely explored distant areas with different floras and faunas.

He was a born bower bird and amassed a shed full and house full of collections of many objects as well as natural history specimens. Some of this fell into disrepair as he aged and as he gave things away but his wonderful memory could provide all sorts of detail not apparent to the observer. To the younger generation he was a source of unlimited stories of the earlier generations of naturalists and their trips to the Little Desert, Ras Wilson, Alex Burns, Norman Tindale and Llew Gooding all visited him, some numerous times and their stories of collecting when life was slow and stately make curious listening in these faster, more frenetic days when the Little Desert is a weekend trip rather than a major undertaking for the annual holidays. Many of the tales of collecting are now lost forever.

With Keith's passing we lose one of the old characters of Natural History with stories of western Victoria or of wartime mosquito control overseas. He was deeply learned in the lore of the bush, always happy to pass on his knowledge, generous with specimens, hospitable, humble and an inspiration to us all.

Theclinesstes albocincta (Waterhouse) (Lepidoptera: Lycaenidae) In Coastal Victoria

R. GRUND

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Introduction

A study of the distribution of *Theclinesstes albocincta* and its *Adriana* hostplants was first attempted ten years ago (Grund, 1996), based on herbarium records of *Adriana*, and *T. albocincta* eggs preserved on the herbarium specimens. During that study there were no records of *T. albocincta* from coastal Victoria. At the time unfortunately, it was not possible to examine *Adriana* herbarium material from the Melbourne and Sydney Herbaria. Since that time, until very recently, there had still been no recordings of *T. albocincta* from coastal Victoria.

Also since that time the *Adriana* has undergone a revision (Gross & Whalen, 1996). There are now only two species recognized in the genus; *Adriana quadripartita* possessing opposite leaves that are nearly sessile, and *Adriana tomentosa* possessing alternate leaves that are petiolate (with stems). The former previously comprised two species; *A. quadripartita* having simple leaves with glabrous uppersides and undersides, and *A. klotschii* having simple leaves with glabrous uppersides and white tomentose undersides. The latter has now been synonymised with *A. quadripartita*, although in this paper the two types will be treated as separate forms. Both are very distinctive in the field and easily identifiable. The species usually grows in temperate coastal and near-coastal situations. The two forms are genetically interesting in that form *quadripartita* is only found in Western Australia, and again near Melbourne and in the west Gippsland of Victoria. A few bushes are known to occur very locally in the Gawler Range of South Australia. Form *klotschii* is only found in South Australia and Victoria. The two forms grow together in Victoria (east of Warrnambool) and again (very locally) in the Gawler Range of South Australia.

The *A. tomentosa* group previously contained at least three species; *A. tomentosa*, *A. glabrata* and *A. hookeri*. *A. tomentosa* with small, 3-lobed trident shaped leaves and generally with tomentose uppersides, *A. glabrata* with large, variable shaped leaves, but usually 3-lobed trident shaped and generally with glabrous to pubescent uppersides, *A. hookeri* with usually small, simple or weakly 3-lobed leaves and generally with pubescent uppersides. *A. hookeri* is now treated as a variety/subspecies of *tomentosa*, while *glabrata* has been synonymised with *tomentosa*. The species *tomentosa* grows in both coastal and inland situations. In Victoria, var. *hookeri* is found in the north-west mallee district, while var. *tomentosa* (previously *glabrata*) is found in east Victoria, both coastal and in the Great Dividing Range. Interestingly, neither species (*quadripartita* and *tomentosa*) have been recorded as growing together, except as a very restricted, unusual case in the Gawler Range of South Australia, although in a couple of cases where the two species approach each other in distribution, unusual types of *Adriana* occur that tend to have hybrid-like features (Gross & Whalen, 1996).

Until recently, blue-adult *T. albocincta* Form 1 (Sibatani & Grund, 1978), has not been seen in Queensland since the original (lectotype) male specimen was described in 1903 from near Peak Downs, although Grund, 1996 locally extended its range based on the presence of its eggs on herbarium specimens of its hostplant *A. tomentosa* (previously *glabrata*). This host plant grows locally along the Great Dividing Range as far south as Victoria. On that basis it was thought there was no reason why the butterfly could not occur all the way down to Victoria, (although the study by Grund, 1996 did not record any eggs on the available herbarium hostplant material south of northern NSW).

Similarly, blue-adult *T. albocincta* Form 3 (Sibatani & Grund, 1978), is known as far east in South Australia as Millicent (75 km coastally from the Victorian border), but (until very recently, see below) was not present coastally in Victoria. Yet its hostplant *A. quadripartita* is known from herbarium specimens to continue on coastally into Victoria as far east as Wilsons Promontory, whereafter this species is replaced by *A. tomentosa* east of Bairnsdale.

On this basis there seemed to be no reason why *T. albocincta* should not occur in coastal or far-east Victoria. It was therefore decided by the author to investigate the known distributions of *Adriana* in these areas for the presence of *T. albocincta* as an aid to the DNA molecular study being undertaken on *T. albocincta* by Rod Eastwood at Griffith University.

Survey Results

While the author was in the Lower Southeast area of South Australia in mid-December 2005, a quick incursion was undertaken into the Lower Glenelg National Park-Discovery Bay Coastal Park areas of coastal western-Victoria to investigate herbaria recordings of *Adriana*. Some good occurrences of *A.q. f. klotzschii* were found in the vicinity of Bulley Ranges and after considerable effort a few early stages of *T. albocincta* were found (there were no flying adults), which developed into blue-adult Form 3 similar to those present near Millicent.

The success of this foray prompted the author to continue with the *Adriana* investigation and visit other parts of coastal Victoria, and this was done during mid-February 2006, which was thought to be a good time for the male flowers of *Adriana* to be developed (the favourite part of the plants for female egg laying) and for the adults to be flying (in these cooler climes of Australia).

The author first proceeded to the Tambo River area of east Victoria where there were numerous herbaria records of *A. tomentosa*. The river banks and adjacent roads were examined between Swift's Creek in the north to Swan Reach in the south. North of Ensay South the river environment has been pastoralized and there were no signs of *Adriana*. At about 9 km south of Ensay South the terrain becomes more rugged southwards with a good development of native vegetation. For the next 23 km southwards until the road leaves the Tambo River to cross the range to Bruthen, were sporadic small groves of large-leaved *A. tomentosa* (Fig 1) containing up to 6 large plants, usually present roadside but occasionally extending down to the near the banks of the river. No adult *T. albocincta* were seen (it was usually raining) and there were no signs of early stages. From near Bruthen and southwards the river is again pastoralized, but between Tambo Upper and Swan Reach on the east side of the river was a large, local community of small *A. tomentosa* growing roadside and in the adjacent paddocks where the road passed up a limestone cliff. Again, no adult *T. albocincta* were seen (it was now sunny) and there were no signs of early stages. Buchan was next examined, and a large community of big *A. tomentosa* plants was found along the access road (and adjacent park next to the Buchan River) into the Buchan Caves, but again no *T. albocincta*. More *Adriana* has been reported from nearby areas such as Murrindal and Orbost, but due to the lack of previous success these were not investigated.

From there the survey shifted west to Wilsons Promontory. The Yanakie Isthmus was the first area checked and all the roads and accessible beaches were looked at without finding any *Adriana*. Within Wilsons Promontory National Park the easily accessible herbarium localities for *Adriana* no longer had living plants. Help had to be obtained from Elaine Thomas, the park Environmental Team Leader who provided two accessible localities from the main bitumen access road into the park, both 2 km in from the road in the northern dune area of the park. The first was at the end of Limestone Track on the east side of the bitumen, along which no *Adriana* could be found, and the second was at the end of Middle Yard Track on the west side of the bitumen road, that had a large (nearly a hectare) grove of only *A.q. f. klotzschii* growing along the north face of an east-west orientated, historically cleared dune and swale

area. Unfortunately, no flying adults or early stages of *T. albocincta* were seen. Where not cleared the area was dominated by dense Coast Tea-tree (*Leptospermum laevigatum*).



Fig 1. Male plant of *Adriana tomentosa* (*glabrata*) growing along the Tambo River.

The next locality was Venus Bay, where *Adriana* has historically been recorded along the Point Smythe (Peninsula) as being common. The author checked everywhere, including a long walk out to the point (Cape Liptrap Coastal Park), but could find only a couple of roadside plants in a cutting along Canterbury Road that included both forms *klotzschii* and *quadripartita* (of *A. quadripartita*), but no *T. albocincta*. The back-dune areas were again dominated by dense Coast Tea-tree, similar to Wilsons Promontory.

The author then moved on to Mornington Peninsula. The Boneo Road crossing at Main Creek near Cape Schanck was first checked, where *Adriana* had previously been recorded, but only one roadside plant was seen. At the intersection of Boneo and Cape Schanck Roads on the southeast side was a good grove of *A.q. f. klotzschii*, but no *T. albocincta*. Along the Cape Schanck Road were also occasional plants. The Cape Schanck headland was also checked, where further *Adriana* had previously been recorded, but none were seen and the elevated rocky habitat was not believed conducive for its existence. However, the dune habitat visible to the west looked good, so the author next went there. Along Truemans Road were odd *A. quadripartita* plants (both forms), but the author continued south to the beach area. The latter consists of two parallel coastal dunes. The first (next to the beach) has low, heathy, salt-spray tolerant vegetation, but the second (back dune) is covered by dense, tall growing Coast Tea-tree. Just to the north of the toll-box, on the east side of the access road, a 20-30 m wide strip of tea-tree in the Mornington Peninsula National Park had been cleared and bulldozed for a road-boundary fence and firebreak, and for about 300 m along this firebreak the pioneer regeneration vegetation is dominated by

both forms of *A. quadripartita* (Fig 2). These plants were closely examined but there was no evidence for early stages of *T. albocincta*, and no adults were seen flying. However, a few *Theclinesstes serpentata* were flying near *Rhagodia candolleana*, its probable hostplant, including a male with a morphology seemingly that of *Theclinesstes sulphiteus*. Interestingly, away from the cleared area and within the dense tea-tree scrub there were no *Adriana* evident!

Further west of the previous area, odd *Adriana* plants continued to occur roadside along the roads that occurred along the backside of the dune system (Sandy-Dundas Roads and Tasman Drive), but again no *T. albocincta*, and yet again the back dune was smothered by tall Coast Tea-tree without any evidence for *Adriana* growing in the understorey.



Fig 2. Truemans Rd, looking south along firebreak and fence-line. Tall scrub is mostly *Leptospermum laevigatum*. Bushes along firebreak are mostly *Adriana quadripartita*.

The author then crossed over to the Bellarine Peninsula. This area was also well examined, mainly along the south and east coasts, and roadside along some of the interior roads. A few impoverished *Adriana* occurred on Ocean Throughway (Road) in Ocean Grove on the south coast, and again roadside along the east side of the golf course (Wallington Road). However, a good grove of *Adriana* occurred roadside for about 1 km along Shell Road near its intersection with Fellows Road at Point Lonsdale, with a few plants extending into the northern side paddock. Both forms of *A. quadripartita* were present as large bushes, but yet again there were no adults or early stages of *T. albocincta* present. Tall Coast Tea-tree vegetation dominated the dunes again along the south coast, without any evidence for *Adriana* in the understorey.

From there the author continued west to Warrnambool along the Princes Highway. No *Adriana* was seen or expected along the road. At Warrnambool the coastal dune area was closely examined for documented *Adriana* but only the odd plants were seen in adjacent areas to the golf course on its east

side and also in the back dune entry area to the Harness Club. Only *A.q. f. klotzschii* was present, without evidence for *T. albocincta*. The author then continued on to Port Fairy and examined the coastal dune area of the town, but saw no *Adriana*. However, a few kilometers west of Port Fairy on the Princes Highway is a 150m stretch of good roadside *A.q. f. klotzschii*, but unfortunately still no evidence for *T. albocincta* habitation. Thereafter the odd *Adriana* bush continued to occur roadside to Narrawong. West of Warrnambool to Portland, good coastal dunes were obvious in the distance from the Princes Highway, but were not examined. West of Portland the Bulley Ranges were again examined, except this time no evidence for *T. albocincta* was seen.

Conclusion

This survey was essentially of a reconnaissance nature and even though it likely did not find all the important *Adriana* sites, it did determine that the *Adriana* populations observed in the surveyed areas were generally very fragmented, and usually of low densities. They had obviously been subjected to considerable agriculturalization. There was no evidence for the presence of *T. albocincta* except west of Portland. The chances of finding *T. albocincta* around Melbourne and in east Victoria are now likely to be slim, although the increasing density of *Adriana* west of Warrnambool would suggest that there is a likelihood of finding further populations of *T. albocincta* with careful searching.

It seems that the present composition-maturity of the coastal sand-dune vegetation in Victoria, is a mature type dominated by Coast Tea Tree (*Leptospermum laevis*) east of Warrnambool and by *Acacia longifolia* var. *sophorae* west of Warrnambool. Whether historically there was ever a reasonably continuous distribution of *Adriana* is not known. Whether the aborigines practiced fire-management in coastal vegetation is also not known (by the author), but if they did then it is likely that *Adriana* would have been present, and similarly that *T. albocincta* would also have been present. In the present circumstances where fire-management, either planned or unintentional, is frowned upon in coastal habitats, particularly in the now highly urbanised areas of the Bellarine Peninsula and further eastwards, it is likely *Adriana* will never again be a common plant. It is apparent (as seen on Truemans Road, Mornington Peninsula) that the *Adriana* is a pioneering species that regenerates after disturbances and fire. A similar feature was recently observed in the Gawler Range of South Australia where a fire lit by tourists escaped and burnt a large patch of mallee habitat in which *Adriana* was not known to be present. The pioneer species that quickly established after the fire was *Adriana tomentosa* var. *hookeri*, which densely covered the burnt area.

Detailed locality information has been noted in this article for those people who might like to recheck the *Adriana* localities at another time in the hope that they may be more successful in finding *T. albocincta* than the author.

References

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- SIBATANI, A. and GRUND, R.B. 1978. A Revision of the *Theclinesstes onycha* complex (Lepidoptera: Lycaenidae). *Trans. of the Lep. Soc. of Japan.* 29(1): 1-34.

A possible Cause for the Reduction of Numbers of Emperor Gum Moths in the Suburbs of Melbourne.

Emperor gum moth caterpillars (*Opodiphthera eucalypti*) were a regular, annual feature of my garden between 1982 and 1998. Sometimes there were two generations between Spring and Easter. At times the new growth on my trees was so heavily over-cropped that I had to move caterpillars around. There were other caterpillars including those of *Doratifera* spp, the cup moths. Since 1998 I have not seen any of the larger caterpillars and very few larvae of *Paropsis* spp. There have been neither cocoons on the trees nor faecal pellets under them. A tree hopper, *Eurymela fenestrata*, once abundant, has also disappeared from the garden. Similarly, I have not seen the crusader bug, *Mictis profana*, for the same period.

Throughout the 1990s I removed around 10 large nests of the European wasp, *Vespula germanica*. One nest was enormous and contained, I estimated, many thousands of adults and larvae. During the summers of the late 1990s, my garden was constantly patrolled by large numbers of wasps. They were a major nuisance at any outside activity and swarmed over food; particularly meat. I observed them attacking and dismembering mantids, cockroaches, large spiders and tree hoppers. On several occasions I noticed long black strips (4 or 5 cm by 3 mm) on the concrete under the branches of some of the eucalypts. I scraped some of the material onto a slide and examined it microscopically. It comprised small pieces of chewed leaf and smelled of eucalyptus. I concluded that the strips were the guts of caterpillars. In the summer of 1998 there were hundreds of these strips on my patio, under the trees. On one particular day there was a great deal of European wasp activity and I noticed many of them flying in and out of the eucalypts. They were attacking the emperor gum caterpillars and stinging them repeatedly until they fell out of the trees. The wasps followed the caterpillars to the ground and dismembered them, leaving only the gut and its contents on the surface.

I have seen very few European wasps over the last two years and it seems that their numbers have decreased, at least for the present. However, I suspect that they have virtually exterminated many of the larger native insects in the Clayton area and thus reduced the prey available to them. However, I have observed a dramatic increase in the population of cockroaches, including the native *Drymaplaneta* sp. over the past 3 years. Larger spiders have also returned in force.

Maxwell Campbell. 18-02-2006

Records of Butterflies (Lepidoptera) from Inland and Southern Western Australia

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Introduction:

The butterfly fauna of Australia has been well documented in Michael Braby's two volume work "*Butterflies of Australia*". These two volumes have brought together a wealth of information on the identification, biology and distribution of Australian butterflies. It is inevitable that on-going observations by lepidopterists and amateur enthusiasts will continue to add to the information contained in these books. Presented here are a number of recent observations on butterflies which occur in inland and southern Western Australia. Also included is information on butterflies previously housed in a CALM lepidoptera collection at Karratha.

Observations and discussion:

HESPERIIDAE

Motasingha dirphia (Hewitson)

The Western Brown Skipper *M. dirphia* is a Western Australian endemic which occurs in coastal and subcoastal areas of south-western Australia. Along the south coast it is known from 18 km south-west of Cocklebiddy, from Mt Ragged to Esperance, and also around Albany (Braby 2000). In January 2006 we recorded the species at Mt Maxwell (34° 12'S 119° 19'E) on the western boundary of the Fitzgerald River National Park. This locality is midway between Albany and Esperance. *M. dirphia* may well occur elsewhere along the coast between Albany and Cocklebiddy where heathland habitats remain.

Mesodina cyanophracta Lower

The Blue Iris-skipper *M. cyanophracta* has a sporadic coastal and subcoastal distribution in south-western Australia. On the west coast it occurs from near Kalbarri (Edwards and Graham 1995) south to Cape Naturaliste and D'Entrecasteaux National Park. On the south coast it is known from Mt Ragged in Cape Arid National Park and Condungup Peak (Williams *et al.* 1997), and further west from around Albany and the Stirling Range (Braby 2000). In December 2006 we collected a male at Mt Maxwell (34° 12'S 119° 19'E) on the western boundary of the Fitzgerald River National Park. It was hill-topping with *Motasingha dirphia*, *Candalides hyacinthina simplex*, *C. acaesta* and *Theclines thes miskini*. This site is intermediate between the Albany and Cape Arid localities.

NYMPHALIDAE

Acraea andromacha andromacha (Fabricius)

The Glasswing *A. a. andromacha* is a resident species in north-western Australia, where it occurs from Exmouth (Williams *et al.* 1993) and Onslow (Common and Waterhouse 1981) to the Kimberley, and eastwards into the Northern Territory. The exact boundary of its regular breeding distribution is not clearly delineated and adults have occasionally been recorded far beyond their normal range (Braby 2000). In Western Australia a specimen was taken at Bungalbin Hill, 100 km north-north-west of

Southern Cross Williams (1996). Butterflies have also been recorded at Leeman (29° 57'S 114° 59'E) and Kalbarri (27° 42'S 114° 12'E) on the Australian west coast (Williams *et al.* 2000). An extreme southern record from Wilson Inlet on the south coast may also be valid (Williams 1996).

In Western Australia *A. a. andromacha* has generally been regarded as a rare vagrant south of its normal breeding range. A number of recent observations however, suggest that it may appear in the arid zone more frequently than originally thought. We have a specimen from Dreamtime Gully (24°18'S 128°15'E) and another from Beyondie Station (24° 46'S 120° 03'E) in the Little Sandy Desert, collected in September 1999. Numerous specimens have been taken at Mount Keith (27° 17'S 120° 30'E) 80 km south-south-east of Wiluna. Here butterflies were common in the watered gardens of the Western Mining Corporation mine site village in October 2001 and again in May 2002. They were attracted to flowering eucalypts and garden plants. On these occasions glasswings were also observed at nearby Albion Downs homestead (27° 17'S 120° 23'E) where they were attracted to flowering garden shrubs.

Migrant glasswings are clearly drawn to watered garden oases in these arid areas. Whether they breed intermittently at Mount Keith or Albion Downs homestead is uncertain. Larvae are known to feed on both native and introduced passion vines (Braby 2000), and in central Australia a small perennial shrub *Hybanthus aurantiacus* was used as a larval food plant during a brief period of seasonal influx at Palm Valley (Pfitzner and Fargher 1976).

Hypolimnas bolina nerina (Fabricius)

The Varied Eggfly *H. b. nerina* is widespread in north-western and northern Australia (Braby 2000). Vagrants are sometimes recorded well outside their normal range. In Western Australia specimens have been recorded from along the coast at Onslow (Common and Waterhouse 1981), Exmouth (Williams and Tomlinson 1994) and Carnarvon (Williams *et al.* 1993). Inland it has been found at Mount Augustus (see Williams *et al.* 1993). We now have a worn female from Karratha collected by C.J. Nicholson in March 1984. Probably the most interesting recent record however, is a male from the mining town of Laverton (28° 38'S 122° 24'E) in central-southern Western Australia. A fresh specimen was photographed there by Harry Holmes in January 2005. It was feeding for some time on flowering orange *Lanlana* in a town garden (Harry Holmes, pers. comm.). The town of Laverton is 700 km south-east of Mount Augustus.

Euploea core corinna (W.S. Macleay)

In Western Australia *E. c. corinna* occurs commonly throughout the Kimberley from Broome to Kununurra. The species is known to be migratory (Braby 1991) and is occasionally recorded outside its normal breeding range. In Western Australia there is a record from Onslow (Common and Waterhouse 1981). We have recorded the species near Milyering (22° 01'S 113° 56'E), 100 km west of Onslow and also at Karratha (20° 45'S 116° 50'E). At Karratha butterflies were recorded breeding on Oleander in 1983 (C.J. Nicholson, specimen label data). For a number of years it was locally established in the town (C.J. Nicholson *pers. com.*). It is not known whether *E. c. corinna* still maintains a permanent population there.

PIERIDAE

Catopsilia pyranthe crokera (W.S. Macleay)

The White Migrant *C. p. crokera* is known from only a few localities in the Kimberley (Braby 2000, Williams *et al.* 2006). The westernmost record is from 22 km south of Exmouth on North-West Cape (Williams *et al.* 1996). We have two specimens from Karratha collected by C.J. Nicholson in March 1984.

Eurema hecabe hecabe (Linnaeus)

The Large Grass Yellow *E. h. hecabe* is common in the Kimberley region of Western Australia. It is believed to be an opportunistic migrant (Braby 2000), and when suitable conditions prevail may appear well south of its normal range. We have six specimens collected in Karratha by C.J. Nicholson in 1983.

Belenois java (Linnaeus)

There are very few records of *Belenois java* from southern and central Western Australia. The butterfly is recorded from Denham and Useless Loop at Shark Bay, and inland at Townsend Ridges (Williams *et al.* 1996). We also have specimens from Beyondie Soak (24° 39'S 120° 08'E) in the Little Sandy Desert.

LYCAENIDAE

Ogyris amaryllis meridionalis (Bethune-Baker)

The distribution map in Braby (2000) indicates that *O. a. meridionalis* is not recorded from the Little Sandy, Great Sandy, Gibson and Great Victoria Deserts in inland Western Australia. This no doubt reflects a lack of collections from these remote areas. The butterflies do in fact occur patchily in the inland deserts where suitable mistletoes are found. The species is known from Townsend Ridges (26° 19'S 126° 48'E) near Warburton (see Williams *et al.* 1996). We also have specimens from 3.6 km east of Cooma Well (24° 03'S 120° 24'E) in the Little Sandy Desert, and from the Wiluna - Kumarina Road, 60 km east of the Great Northern Highway (25° 40'S 119° 45'E)

Ogyris otanes arcana (Williams and Hay)

This recently described subspecies of the Small Bronze Azure occurs across a wide area of southern Western Australia. It has been collected in the Stirling Range National Park and adjacent Camel Lake Nature Reserve, in Cape Arid National Park and adjacent Nuytsland Nature Reserve, and at Israelite Bay (Williams and Hay 2001). In December 2004 we located a new site 1.5 km east of Cranbrook (34° 18' 30"S 117° 34' 15"E). The site is an area of woodland and scrub which acts as a buffer between the main road and some large bituminised pans used as water catchment for Cranbrook's water supply. The butterflies were flying in open *Eucalyptus wandoo* woodland over sparse *Choretrum glomeratum* shrubs with low sedges and grasses.

Ogyris idmo Hewitson

There are very few recorded localities for *O. idmo* in the south-western corner of Western Australia. This is shown clearly by distribution map-points in Dunn and Dunn (1991). We have a female *O. idmo* collected in December 2004 from Tone Forest block, about 40 km south-west of Manjimup (34° 23'45"S 116° 29'15"E), and another from 7 km north-east of Ledge Point near Albany (34° 58'S 118° 03'E), collected in December 1999.

In 2002 we located a new population of *O. idmo* on the Swan coastal plain 6 km north of Wanneroo. The site, between Carramar and Banksia Grove, was somewhat degraded having been partially cleared and used for grazing. Butterflies were abundant along a kilometre of sand track which bordered on banksia woodland. Unfortunately the area was zoned for urban development and has now been destroyed. Observations in 2002, 2003 and 2004 revealed that *O. idmo* at this site had two distinct flight periods, one in late spring / early summer, the other in late summer / early autumn. Butterflies first appeared in mid November and were on the wing until mid December. They reappeared in the second week of February and flew until the end of April.

At this site the adults exhibited atypical behaviour. At Pickering Brook, *O. idmo* has a distinctive behaviour pattern: in the mornings, only females are observed; between noon and 1:00 pm no butterflies are seen; and after 1:00 pm males are very active and settle only in cool conditions. Females are rarely seen in the afternoons, and those that are, are usually in extremely good condition and are

probably unmated. In contrast, at the Carramar site males and females may be seen at any time of day. Males patrol distinct territories, usually perching on a dead twig or similar object, until disturbed.

The bi-voltine appearance of *O. idmo* on the Swan coastal plain is also very unusual. Elsewhere in Australia, *O. idmo* is thought to have only one generation a year (Braby 2000). Our observations at nearby Pickering Brook (Williams *et al.* 1995) indicate that butterflies there fly only in spring and early summer. Periodic monitoring at the site has shown that they do not reappear in autumn. The only other location on the Swan coastal plain where *O. idmo* is known to occur is Koondoola Bushland Reserve, where butterflies have been observed both in late spring and autumn.

Jalmenus inous Hewitson

J. inous is an endemic Western Australian species. Along the west coast it occurs from 19 km north of Wanneroo (Williams and Tomlinson 1994) south to Cape Naturaliste Bay (Morton 1984). We have specimens from Moses Rock (33° 46'S 114° 59'E) 25 km south of Cape Naturaliste, collected in early November 2002. Butterflies from this site are exceptionally well marked underneath, and in some specimens the two black spots near the tornus on the hind wing are broadly edged bright orange. The larval food plant at Moses Rock is *Acacia saligna*. Larvae and pupae were attended by *Iridomyrmex turbinatus* Shattuck & McMillan, a previously unrecorded host ant.

Candalides hyacinthina gilesi (Williams and Bollam)

The recently described subspecies of the Varied Dusky-blue, *C. h. gilesi*, occurs in south-western Western Australia from near Perth south to Augusta, and eastwards to West Cape Howe near Albany (Williams *et al.* 1997, Williams and Bollam 2001). Specimens have been collected as far inland as Manjimup, Pemberton and the Porongurup Range. Williams and Bollam (2001) noted that the distributions of *C. h. gilesi* and *C. h. simplex* are generally distinct, but suggested that they may be sympatric in the Stirling or Porongurup Ranges. *C. h. simplex* occurs commonly in the Stirling Range, and specimens have been collected there from December to February. We now also have three recent specimens of *C. h. gilesi* from Stirling Range National Park. This confirms that the two subspecies occur together.

One of our recent *C. h. gilesi* specimens from Stirling Range (7/12/2002) was collected in Jarrah / Marri low woodland at the base of Toolbrunup Peak (34° 23' 32"S 118° 03' 17"E). This is similar to the situation further north where the two subspecies tend to occupy different habitats, *C. h. gilesi* being confined to forest or woodland and *C. h. simplex* being typically found in heathland (Williams and Bollam 2001). At Stirling Range however, *C. h. gilesi* is not always found in woodland habitats. Our two other specimens (3/12/1999) were collected with *Candalides acasta* (Cox) in mallee heath on the upper slopes of Mondurup Peak (34° 24' 08"S 117° 48' 30"E). Interestingly, we found *C. h. simplex* and *C. acasta* together in exactly the same spot on 20/01/1994, but on this last occasion (03/12/1999) the purple *C. h. gilesi* had replaced the blue *C. h. simplex*.

C. h. gilesi and *C. h. simplex* are not always far apart at Stirling Range National Park. Examination of material in the CALM lepidoptera collection has revealed that a worn male *C. h. gilesi* was collected on the summit of Mondurup Peak (34° 24' 15"S 117° 48' 41"E) on 20/01/1994, about 300 meters from where *C. h. simplex* and *C. acasta* were flying together. In light of this finding, the status of *C. h. gilesi* might still warrant further investigation. At this stage no intermediate or hybrid specimens have been observed.

Candalides heathi heathi (Cox)

The distribution map in Braby (2000) shows a patchy coastal and inland distribution for this species, based on current records. We have intermediate locality records from Boolathana Station (24° 39'S 113° 42'E), in the Little Sandy Desert, and Karratha (20° 45'S 116° 50'E). A female from Karratha was

observed ovipositing on a garden planted *Eremophila maculata* (C.J. Nicholson, 16 April 1986, specimen label data).

Theclines thes miskini miskini (Lucas)

The Wattle Blue *T. m. miskini* is found across much of Western Australia, including Garden Island off Perth (Williams 1997). We have a specimen from Rottnest Island (32° 00'S 115° 30'E), caught flying around prominent shrubs on top of Vlaming Lookout in February 2000.

Theclines thes serpentata serpentata (Herrich-Schaffer)

T. s. serpentata is probably much more widely distributed in inland Western Australia than is currently shown on the distribution map in Braby (2000). We have additional records from Willy's Soak (24° 35'S 120° 14'E) and Boolathana Station (24° 39'S 113° 42'E) in the Little Sandy Desert.

Zizina labradus labradus (Godart)

The distribution map in Braby (2000) indicates that *Z. l. labradus* has not been recorded from almost the entire arid zone in Western Australia, and that it appears to be absent from the Great Sandy, Gibson and Great Victoria Deserts. We have recorded the species from Beyondie Station (24° 46'S 120° 03'E) and Boolathana Station (24° 39'S 113° 42'E) in the Little Sandy Desert, and from Kukuku outstation (26° 02'S 127° 30'E) 105 km east of Warburton in the Great Victoria Desert.

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ECOLOGY

Joe C Scanlan & Cas Vanderwoude: Modelling the potential spread of *Solenopsis invicta* Buren (Hymenoptera: Formicidae) (red imported fire ant) in Australia

Amanda J Cleary, Bronwen W Cribb & David A H Murray: *Helicoverpa armigera* (Hübner): can wheat stubble protect cotton plants against attack?

Andrew D Hulthen & Anthony R Clarke: The influence of soil type and moisture on pupal survival of *Bactrocera tryoni* (Froggatt) (Diptera: Tephritidae)

Alan Meats: Attributes pertinent to overwintering potential do not explain why *Bactrocera neohumeralis* (Hardy) (Diptera: Tephritidae) does not spread further south within the geographical range of *B. tryoni* (Froggatt)

SYSTEMATICS

Bruce Halliday & David E Walter: *Fuscarus australis* sp. n., the first endemic species of Australian Glycyphagidae (Acari)

Kerrie A Huxham, Harry A C Fay & David L Hancock: Two new species and a new Australian record of *Bactrocera Macquart* (Diptera: Tephritidae: Dacinae) from northern Queensland, Torres Strait and Papua New Guinea

Peter Kolesik, Christian Geyer & Wilfried Morawetz: First known gall midge (Diptera: Cecidomyiidae) from Arecaceae: *Normanbyomyia fructivora* gen. & sp. n. damaging fruit of the black palm, *Normanbya normanbyi*, in tropical Australia

Yasuoki Takami & Teiji Sota: Four new species of the Australian *Pamborus Latreille* (Coleoptera, Carabidae) carabid beetles

Peter G Allsopp & Christine L Lambkin: Canegrubs and cladistics: what story do adult, larval and ecological characters tell?

BEHAVIOUR

Kenneth W Webster, Paul Cooper & Laurence A Mound: Studies on Kelly's citrus thrips, *Pezothrips kellyanus* (Bagnall) (Thysanoptera: Thripidae): sex attractants, host associations and country of origin

Kumaran Ganesan, Murlidhar J Mendki, Malladi V S Suryanarayana, Shri Prakash & Ramesh C Malhotra: Studies of *Aedes aegypti* (Diptera: Culicidae) ovipositional responses to newly identified semiochemicals from conspecific eggs

PEST MANAGEMENT

Aaron T Simmons, Helen I Nicol & Geoff M Gurr: Resistance of wild *Lycopersicon* species to the potato moth, *Phthorimaea operculella* (Zeller) (Lepidoptera: Gelechiidae)

Philip Batterham, Ayscha Hill-Williams, Garry Levot, Narelle Sales & John A McKenzie: The genetic bases of high-level resistance to diflubenzuron and low-level resistance to cyromazine in a field strain of the Australian sheep blowfly, *Lucilia cuprina* (Wiedemann) (Diptera Calliphoridae)

Joanne Dawson, Andrew J Hamilton & Catherine Mansfield: Dispersion statistics and a sampling plan for *Helicoverpa* (Lepidoptera: Noctuidae) on fresh-market tomatoes (*Lycopersicon esculentum*)

INSECT BIOCONTROL

Scott Hardwick: Parasitoids and hyperparasitoids of *Mythimna convecta* (Walker) (Lepidoptera: Noctuidae) larvae infesting late-maturing maize in southern New South Wales

Daniel J Sullivan, Kent M Daane, Karen R Sime & John W Andrews Jr: Protective mechanisms for pupae of *Psyllaephagus bliteus* Riek (Hymenoptera: Encyrtidae), a parasitoid of the red-gum lerp psyllid, *Glycaspis brimblecombei* Moore (Homoptera: Psyllodea)

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CONTENTS

	Page
Minutes of The Annual General Meeting 21 April 2006	41
Minutes of The General Meeting 21 April 2006	42
Minutes of The Councillor's Meeting 17 March 2006	44
Keith Hateley 10 April, 1911 to 1 September, 2005	45
Grund, R. <i>Theclinesithes albocincta</i> (Waterhouse) (Lepidoptera: Lycaenidae) In Coastal Victoria	47
Campbell, M. A possible Cause for the Reduction of Numbers of Emperor Gum Moths in the Suburbs of Melbourne.)	53
Williams, A.A.E. & Williams, M.R. Records of Butterflies (Lepidoptera) from Inland and Southern Western Australia	54
Contents of the Australian Journal of Entomology Volume 45, Part 1	59

DIARY OF COMING EVENTS

Friday 16 June 2006
Rebecca Carland will present a talk on
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Friday 21 July 2006 Council Meeting

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